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THE UNITED STATES OF AMERICA

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October 28, 2003

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OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT  
APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A  
FILING DATE.

APPLICATION NUMBER: 60/409,690

FILING DATE: *September 10, 2002*

RELATED PCT APPLICATION NUMBER: PCT/US03/28208

By Authority of the  
COMMISSIONER OF PATENTS AND TRADEMARKS

  
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J1132 U.S. PTO

09-11-02

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PTO/SB/16 (8-00)

Approved for use through 10/31/2002 OMB 0651-0032

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## PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

TO

60/409690

INVENTOR(S)				
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)		
Stefano A.	Livi	Ellicott City, Maryland		
<input type="checkbox"/> Additional inventors are being named on the _____ separately numbered sheets attached hereto				
TITLE OF THE INVENTION (280 characters max)				
Strofio: A Spectrograph Time-of-Flight System for Low-energy Neutral Particles				
Direct all correspondence to:		CORRESPONDENCE ADDRESS		
<input type="checkbox"/> Customer Number	→		Place Customer Number Bar Code Label here	
OR	Type Customer Number here			
<input checked="" type="checkbox"/> Firm or Individual Name	Office of Patent Counsel			
Address	The Johns Hopkins University/Applied Physics Laboratory			
Address	11100 Johns Hopkins Road			
City	Laurel	State	MD	ZIP 20723-6099
Country	U.S.A.	Telephone	(240) 228-5644	Fax (240) 228-5254
ENCLOSED APPLICATION PARTS (check all that apply)				
<input checked="" type="checkbox"/> Specification Number of Pages	1	<input type="checkbox"/> CD(s), Number		
<input type="checkbox"/> Drawing(s) Number of Sheets		<input type="checkbox"/> Other (specify)		
<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76				
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)				
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.	FILING FEE AMOUNT (\$)			
<input type="checkbox"/> A check or money order is enclosed to cover the filing fees				
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number	01-2218	\$80.00		
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.				
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.				
<input checked="" type="checkbox"/> No.				
<input type="checkbox"/> Yes, the name of the U S Government agency and the Government contract number are _____				

Respectfully submitted,

SIGNATURE Benjamin Y. RocaTYPED or PRINTED NAME Benjamin Y. Roca  
(240) 228-5644

TELEPHONE \_\_\_\_\_

Date

9/9/02

REGISTRATION NO.  
(if appropriate)

50,166

Docket Number:

1880-SPL

### USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C.

P18SMALL/REV.05

604-690-0910UE

JHU/APL Docket No. 1880-SPL PRV

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Stefano A. Livi

For: Strofio: A Spectrograph Time-of-Flight System for Low-energy Neutral Particles

Assistant Commissioner for Patents  
Box Provisional Application  
Washington, D.C. 20231

EXPRESS MAIL CERTIFICATE

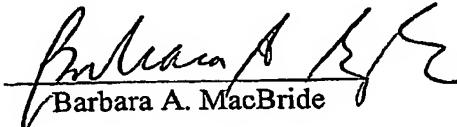
"Express Mail" label number **EL685618005US**

Date of Deposit: 10 September 2002

I hereby certify that the following attached provisional application as identified above  
consisting of:

1. Postcard receipt
2. Provisional Application for Patent Cover Sheet (in duplicate) (1 page)
3. Provisional Application (1 pp.)

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee"  
service under 37 CFR 1.10 on the date indicated above and is addressed to Assistant  
Commissioner for Patents, Box Provisional Application, Washington, D.C. 20231.

  
Barbara A. MacBride

Docket No. 1880-SPL PRV

Title: A Spectrograph Time-of-Flight System for Low-energy Neutral Particles

Inventor: Stefano A. Livi

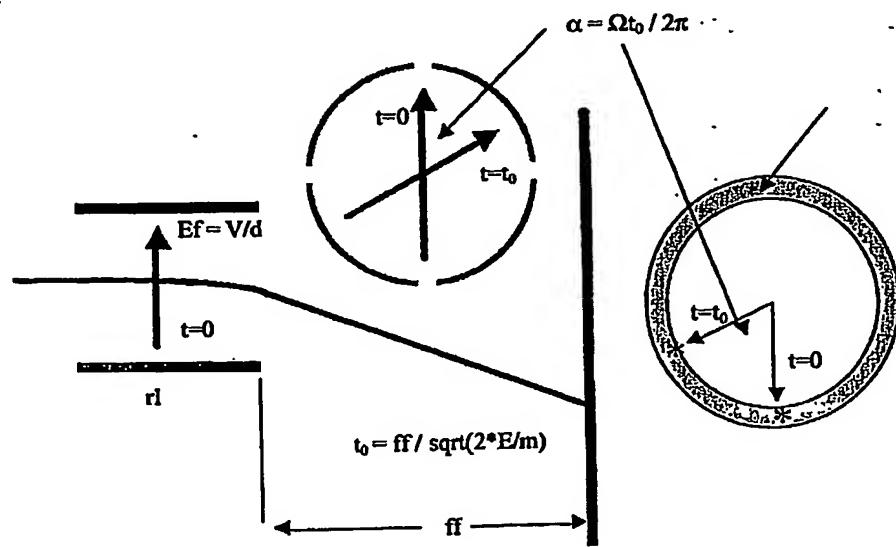
## 4. DESCRIPTION OF THE TECHNOLOGY:

- Written Description (Describe the invention in such detail that a person moderately skilled in the art may understand how to make and use it. In addition, attach any memos, etc. which show or describe the invention and identify them positively (i.e., by date and office symbol) below.)

Strofio is a novel type of mass spectrometer, where the mass of the particle is determined by the time of flight through a given region. The start time is imprinted on the trajectory of the particle by a radio frequency electric field, that bends the trajectory in a given plane, and the stop time is the time when the particle reaches the detector.

Check here if additional sheets/material are attached. (Go to Description Continuation Sheet)

- Sketch or drawing of the invention. (Staple your sketch to the printed copy of this form.)



**United States Patent & Trademark Office**  
**Office of Initial Patent Examination**

**Application papers not suitable for publication**

SN 60409690

Mail Date 9/10/02

Non-English Specification

Specification contains drawing(s) on page(s) / or table(s) \_\_\_\_\_

Landscape orientation of text  Specification  Claims  Abstract

Handwritten  Specification  Claims  Abstract

More than one column  Specification  Claims  Abstract

Improper line spacing  Specification  Claims  Abstract

Claims not on separate page(s)

Abstract not on separate page(s)

Improper paper size -- Must be either A4 (21 cm x 29.7 cm) or 8-1/2" x 11"

Specification page(s) \_\_\_\_\_  Abstract

Drawing page(s) \_\_\_\_\_  Claim(s)

Improper margins

Specification page(s) \_\_\_\_\_  Abstract

Drawing page(s) \_\_\_\_\_  Claim(s)

Not reproducible

Section

Specification page(s) \_\_\_\_\_

Drawing page(s) \_\_\_\_\_

Abstract

Claim(s)

Drawing objection(s)

Missing lead lines, drawing(s) \_\_\_\_\_

Line quality is too light, drawing(s) \_\_\_\_\_

More than 1 drawing and not numbered correctly

Non-English text, drawing(s) \_\_\_\_\_

Excessive text, drawing(s) \_\_\_\_\_

Photographs capable of illustration, drawing(s) \_\_\_\_\_

Photographs capable of illustration, drawing(s) \_\_\_\_\_